

Distance Education and Student Achievement at GCC: *A Summative Report*

Introduction

Like many other community colleges in the nation, Guam Community College (GCC) embarked on a campus-wide distance education initiative to determine its feasibility within its unique student population. Because of Guam's geographic isolation, the initial idea was to pilot the initiative as a Guam-only initiative. It was primarily intended as a service to GCC students who have transportation and/or childcare issues, particularly geared toward non-traditional students, such as those who are pursuing their studies on a part-time basis, those who are currently employed, and those who can not come to campus during daytime hours when regular semester classes were routinely scheduled.

As defined by ACCJC, and as mirrored in GCC's Board of Trustees Policy 340, distance education at the college is defined broadly as having the following characteristics:

- Instruction delivered to students who are separated from the instructor
- Regular and substantive interaction between students and the instructor
- May use Internet, one- or two-way transmissions, audio/visual conferencing, DVDs or CD-ROMs [34 CFR § 602.3 (Definitions)]

At GCC, this broad definition includes both purely online and hybrid courses.

This summative report provides a synthesis of the development and evolution of the DE initiative as conceptualized at GCC, particularly its impact on student learning and achievement since 2012 to the present day.

Methodology and Objectives

Both quantitative and qualitative survey data were primarily utilized for this report. As a supplement to the survey data, document analysis was also utilized as a secondary methodology. Moreover, survey results – both quantitative and qualitative – provided the substantive data to generate lessons and insights regarding the impact of DE as an alternative instructional delivery format for GCC students. In addition to survey data being compiled and analyzed by the Institutional Researcher, enrollment reports were also culled from Banner and from the Operational Data Store (ODS) in order to get a comprehensive picture of DE on campus.

This report has a three-fold objective:

- (1) To provide an overview and subsequent development of online/ hybrid course offerings on campus;

((2) To document the challenges the DE initiative on campus faces in light of limited institutional resources; and

(3) To determine its impact on student learning and achievement through an analysis of grades from students enrolled in online/hybrid versus face-to-face classes.

Based on the analysis of the evidence collected, recommendations will be made at the conclusion of this report.

Results and Discussion

Overview and subsequent development. The Distance Education initiative at the college began its humble beginnings at the Education Department with a course called *Teaching an Online Course*, offered through Continuing Education, which was piloted through a Career and Technical Education (CTE) grant funding in Fall 2008. This was followed by a course called *Creating Online Learning Communities* the year after. This eventually led to the development of two Education-based courses: *Human Growth & Development*, and *Child Growth & Development*. These two department-based courses, which were offered in succeeding semesters, depended purely on student interest, however. As such, they were not part of the regular semester course offerings nor was it an integral part of departmental growth. Because this was deemed as a department-led, rather than institution-led, initiative, institutional support for these courses was very limited. During this time, the only institutional support provided to the department consisted of a modest funding support for an outside practitioner to manage Moodle. One positive development during these early years however is the visioning that occurred for DE. Faculty led this determination from the Education Department who spearheaded a concerted effort for an institutional policy regarding this mode of instructional delivery. The Policy on Distance Education (Policy 340) was approved by the Board as early as 2010 due to this concerted effort.

In an attempt to systematize DE offerings at the college, an institutional effort began to take shape in AY 2013-2014, after the college received its 2012 Evaluation Report, where one of the recommendations is to develop a DE strategic plan. A contractual arrangement with outside consultants took place that same year, and soon thereafter, an off-island team visited the campus to engage stakeholders in discussion and dialogue. This core group consisted of members that included administrators, faculty, and students. The team also took the lead to gather survey data from various groups on campus, which eventually led to the development of the following drafts of reports in a three-year period:

- Distance Education Capabilities Assessment (2012)
- Market Assessment and Needs Analysis (2013)
- Results of Faculty Online Teaching Survey (2014)
- Five Year Distance Education Strategic Plan: 2015-2020
- Distance Education: Standard Operating Procedures (2016)

When the consultants' contract expired, the college took the responsibility to finalize these reports. In particular, the two last reports were vetted on campus through the participatory governance process, and finalized afterwards by the Program Specialist under the Academic Technology Department. Likewise, the same Program Specialist facilitated a regular meeting schedule of the newly formed DE Task Force, consisting of administrators and faculty teaching DE and hybrid courses. A new page on the website detailing the GCC DE initiative was also set up. Finally, a contractual agreement between the college and a third party vendor to host the Learning Management System (i.e. Moodle) server was formally established soon thereafter.

The Office of the Vice President for Academic Affairs (VPAA) released the following memorandum addressed to all faculty on October 15, 2015, while gearing up for the next academic year:

As GCC moves past the pilot phase of our Distance Education course offerings this academic year, we now have to think of growing our DE offerings, in keeping with the DE Strategic Plan. For AY 2016-2017, the college's priority is to have the high-enrolled courses in our General Education curriculum (i. e., English, Math, Science, Social Science) to have online or hybrid options. Additionally, we will also consider the following parameters:

- 1. Only courses that have completed the LOC curriculum approval process one semester prior to its scheduled offering will be allowed to proceed;*
- 2. Continuing Education should only offer online or hybrid courses that meet immediate community or industry needs.*

Faculty who express interest in teaching DE must plan accordingly so that they fulfill the following two requirements the semester before being scheduled to teach:

- 1. Getting a Certificate for Online Adjunct Teaching (COAT) certification using PDRC funding; and*
- 2. Completing a Moodle course or Learning Management Software (LMS) training through Remote Learner, GCC's third party vendor for remote server hosting, or a CE course offering on Moodle teaching.*

Once the above requirements are completed, creating a course shell in Moodle is the next step. Guidance in building course content in Moodle will be provided by Wes Gima of the Academic Technology Office.

For AY 2017-2018, faculty who express an interest in web-enhanced classes will get a Moodle course shell, which will allow faculty members to gradually get familiar with the chosen LMS.

Select initiatives, in consultation with and approval of the AVP, will be allowed to work on packaging their courses as an online/hybrid initiative, with the possibility of turning in an ACCJC substantive change request sometime in the near future.

The college's evaluation of the process of online teaching certification, scheduling of DE offerings, building course content, and assessing DE classes will be continuous and ongoing. The TSS Dean, Dr. Michael Chan, will oversee the academic side of the DE course offerings, and all communication from faculty about DE will be coursed through him.

Please be guided accordingly.

Table 1 below provides a history of course offerings, in both online and hybrid formats, from AY 2012 to AY 2017:

Table 1. Online and Hybrid Course Offerings, Fall 2012- Fall 2017

Semester	Course	Title	Instruction	Enrollment
Fall 2012	ED220	Human Growth & Development	Online	31
	CD221	Child Growth & Development	Online	21
			Total	52
Spring 2013	CD221	Child Growth & Development	Online	29
	ED220	Human Growth & Development	Online	31
			Total	60
Fall 2013	ED220	Human Growth & Development	Online	30
	CD221	Child Growth & Development	Online	16
			Total	46
Spring 2014	CD221	Child Growth & Development	Online	8
	ED220	Human Growth & Development	Online	23
			Total	31
Fall 2014	CD221	Child Growth & Development	Online	16
	ED220	Human Growth & Development	Online	21
			Total	37
Spring 2015	CD221	Child Growth & Development	Online	13
	ED220	Human Growth & Development	Online	8
			Total	21
Fall 2015	EN110	Freshman Composition	Online	19
	OA101	Keyboarding	Online	39
	MA110A	Finite Mathematics	Online	19
			Total	77
Spring 2016	EN110	Freshman Composition	Online	19
	OA101	Keyboarding	Hybrid	40
	MA110A	Finite Mathematics	Online	24
	OA230	Advanced Information Processing	Online	8
	OA240	Machine Transcription	Hybrid	6
			Total	97
Fall 2016	MA110A	Finite Mathematics	Hybrid	11
	OA101	Keyboarding	Hybrid	72
	OA103	Filing Systems	Hybrid	5
	OA130	Information Processing	Hybrid	10
	EN110	Freshman Composition	Online	18
			Total	116

Spring 2017	OA101	Keyboarding	Hybrid	36
	MA110A	Finite Mathematics	Hybrid	9
	OA230	Advanced Information Processing	Hybrid	6
	OA240	Machine Transcription	Hybrid	6
			Total	57
Fall 2017	MA110A	Finite Mathematics	Hybrid	19
	OA101	Keyboarding	Hybrid	125
	OA103	Filing Systems	Hybrid	15
	OA130	Information Processing	Hybrid	6
	CD221	Child Growth & Development	Online	23
	EN110	Freshman Composition	Online	20
			Total	208
Grand Total				799

As the above table reflects, from Fall 2012 to Spring 2015, only Education courses were offered in purely online delivery format. Very limited institutional support was provided to these courses during this period, as mentioned earlier. In Fall 2015, however, under the newly developed DE Strategic Plan, three (3) DE pilot online courses were launched at the college, with full institutional support. A third party vendor was contracted by the college to host the Moodle server, with training available for Moodle users, as it was decided to adopt the same learning management system (LMS) in order to provide continuity to the past practice of using Moodle in prior DE courses. No other courses were offered, as this pilot strategy was intended for data collection purposes. These courses must have been approved by the Learning Outcomes Committee (LOC), as well. These newly developed online courses that met all the requirements included the following:

- OA101 (Keyboarding and Document Processing)
- MA110A (Finite Mathematics)
- EN110 (Freshman Composition)

The table above also reflects the growth of DE in terms of student enrollment in the course of five (5) years, from more than 50 students in Fall 2012 to over 200 students in Fall 2017. It also shows the marked shift from purely online to hybrid delivery format in the courses offered from semester to semester. This trend appears to be validated in the year-end report submitted by the Faculty DE Liaison in the previous semester.

The next table below provides the instructor assignments for these courses, as well as the establishment of the hybrid instructional delivery format under the same period covered by the previous table:

Table 2. Instructor Assignments for Online and Hybrid Course Offerings, Fall 2012-Fall 2017

Semester	Course	Title	Modality	Instructor Name
	ED220	Human Growth & Development	Online	Concepcion, Jonah M.
	ED220	Human Growth & Development	Online	Concepcion, Jonah M.

Semester	Course	Title	Modality	Instructor Name
Fall 2012	CD221	Child Growth & Development	Online	Concepcion, Tonirose R.
Spring 2013	CD221	Child Growth & Development	Online	Concepcion, Tonirose R.
	ED220	Human Growth & Development	Online	Concepcion, Jonah M.
	ED220	Human Growth & Development	Online	Concepcion, Jonah M.
	CD221	Child Growth & Development	Online	Concepcion, Tonirose R.
Fall 2013	ED220	Human Growth & Development	Online	Concepcion, Jonah M.
	ED220	Human Growth & Development	Online	Cruz, Ed C.
	CD221	Child Growth & Development	Online	Concepcion, Tonirose R.
Spring 2014	CD221	Child Growth & Development	Online	Concepcion, Tonirose R.
	ED220	Human Growth & Development	Online	Concepcion, Jonah M.
	ED220	Human Growth & Development	Online	Concepcion, Jonah M.
Fall 2014	CD221	Child Growth & Development	Online	Postrozny, Marsha M.
	ED220	Human Growth & Development	Online	Cruz, Ed C.
Spring 2015	CD221	Child Growth & Development	Online	Postrozny, Marsha M.
	ED220	Human Growth & Development	Online	Cruz, Ed C.
Fall 2015	EN110	Freshman Composition	Online	Dela Cruz, Tressa C.
	OA101	Keyboarding	Online	Concepcion, Tonirose R.
	OA101	Keyboarding	Online	Balbin, Sandy R.
	MA110A	Finite Mathematics	Online	Lam, Steve S.
Spring 2016	EN110	Freshman Composition	Online	Dela Cruz, Tressa C.
	OA101	Keyboarding	Hybrid	Balbin, Sandy R.
	OA101	Keyboarding	Hybrid	Concepcion, Tonirose R.
	MA110A	Finite Mathematics	Online	Lam, Steve S.
	MA110A	Finite Mathematics	Online	Lam, Steve S.
	OA230	Advanced Info Processing	Online	Balbin, Sandy R.
	OA240	Machine Transcription	Hybrid	Balbin, Sandy R.
Fall 2016	MA110A	Finite Mathematics	Hybrid	Lam, Steve S.
	OA101	Keyboarding	Hybrid	Balbin, Sandy R.
	OA101	Keyboarding	Hybrid	Concepcion, Tonirose R.
	OA101	Keyboarding	Hybrid	Balbin, Sandy R.
	OA101	Keyboarding	Hybrid	Concepcion, Tonirose R.
	OA103	Filing Systems	Hybrid	Balbin, Sandy R.
	OA130	Information Processing	Hybrid	Concepcion, Tonirose R.
	EN110	Freshman Composition	Online	Dela Cruz, Tressa C.
Spring 2017	OA101	Keyboarding	Hybrid	Balbin, Sandy R.
	MA110A	Finite Mathematics	Hybrid	Lam, Steve S.
	OA101	Keyboarding	Hybrid	Balbin, Sandy R.
	OA230	Advanced Info Processing	Hybrid	Balbin, Sandy R.
	OA240	Machine Transcription	Hybrid	Balbin, Sandy R.

Fall 2017	MA110A	Finite Mathematics	Hybrid	Lam, Steve S.
	OA101	Keyboarding	Hybrid	Balbin, Sandy R.
	OA101	Keyboarding	Hybrid	Balbin, Sandy R.
	OA101	Keyboarding	Hybrid	Concepcion, Tonirose R.
	OA101	Keyboarding	Hybrid	Concepcion, Tonirose R.
	OA101	Keyboarding	Hybrid	Balbin, Sandy R.
	OA101	Keyboarding	Hybrid	Balbin, Sandy R.
	OA103	Filing Systems	Hybrid	Balbin, Sandy R.
	OA130	Information Processing	Hybrid	Concepcion, Tonirose R.
	CD221	Child Growth & Development	Online	Postrozny, Marsha M.
	EN110	Freshman Composition	Online	Dela Cruz, Tressa C.

It is worthwhile to note that, beginning Fall 2015, all these instructors in the table above completed both online pedagogy training and Moodle training as eligibility requirements for teaching DE or hybrid courses.

Challenges and Limitations. As the DE initiative at the college faces its third year of implementation based on the DE Strategic Plan timeline, several challenges have been identified that have impeded its growth and expansion. These include the following:

1. Lack of a centralized office at the college that can track and monitor the development, progress, and assessment of purely online and hybrid courses, as well as engage the pool of faculty who teach these courses;
2. Lack of a dedicated administrator who can provide thoughtful planning to the process of growing and improving the initiative; and
3. Limited interest on the part of faculty to develop online or hybrid courses due to two reasons: (1) eligibility requirements that are perceived to be difficult and lengthy to obtain, and (2) perceived lack of institutional support for DE, in general.

Although a Dean was initially assigned by the Vice President for Academic Affairs to provide oversight of the DE initiative, it soon became apparent that this administrator's lack of training and expertise in this area was a major handicap. To remedy the situation, funding support was provided by the President's Office (through the President's Promotion and Development budget) to appoint a DE Faculty Liaison who was contracted to provide the following scope of work:

1. **Formative assessment** – including, but not limited to, the following: virtual classroom visits, status reports of DE faculty meetings, planning and coordination of professional development opportunities, promotion and marketing of DE to faculty and students, and other related activities of ongoing DE improvement efforts;

2. **Summative assessment** – including, but not limited to, the following: mid-year and year-end reports of DE classroom visits, with recommendations of improving teaching and learning processes for both faculty and students; and
3. **Coordination and planning of DE activities** – including, but not limited to, the following: branding of DE, surveys of faculty and students, in consultation with appropriate offices (AIER, Dean's Office, VPAA Office, Admissions & Registration, Communications & Promotions, etc.)

A faculty member from the English Department initially served in this role for one academic year. In her role as DE Faculty Liaison, she was able to connect, monitor, and invigorate the various components of DE on campus, inclusive of administrators, staff, and students. When she was unable to serve in the same capacity for the next academic year due to a justifiable reason, this became another limitation to the systematic monitoring of the DE initiative, as well as the faculty who teach online and hybrid courses.

Since Fall 2015, the Academic Technology Office, under the Division of Finance and Administration, has provided support in terms of its arrangements with the third party vendor regarding Moodle hosting. The VPAA office however provides academic support and this lack of a centralized office to take care of both of these components is a major barrier in the implementation of the DE Strategic Plan. This lack of coordination between the two divisions through dedicated personnel who can provide time and effort to this singular work has contributed greatly to this situation. The division of labor between personnel of the two divisions, for example, as a result of the inability of the faculty member to continue in her role as DE Faculty Liaison this academic year, vividly illustrates the complexity of this challenge.

Impact on Student Learning and Achievement. Document analysis of the various reports provided by the consultants point to these observations:

1. Despite the self-reported limited readiness among faculty and students to embark on a DE initiative on campus, the flexibility in scheduling remains its primary appeal to both groups;
2. Though the market analysis survey points to an increased interest for DE as an alternative delivery format for non-traditional students, computer literacy for its intended population has been identified as a major challenge; and
3. Assumptions regarding computer ownership as well as Internet connectivity at home for students who opt to take DE or hybrid courses is not a well-founded assumption. Many students in fact can only work on their DE/hybrid assignments on campus.

There is also anecdotal evidence in the student surveys that this latter observation is one major impediment for students taking the online or hybrid option. Faculty in fact shared the validation of a number of these stories during the task force meetings. Some faculty even shared stories of students in an online class they were assigned to teach who still requested for face-to-face meetings with their instructors to get more clarity on assignments, as well as practice their skills in navigating the course via Moodle.

In an attempt to determine the impact of the **online/hybrid** versus **face-to-face** delivery format on student achievement as reflected in course completion, data was gathered through the Operational Data Store (ODS) in Banner to generate a comparative analysis of these two formats.

Tables 3, 4, and 5 below compare GCC students' grades within ten (10) semesters for online/hybrid versus face-to-face (F2F) instructional delivery formats. In particular, the following table shows the pass and failure rates for online/hybrid courses from Fall 2012 to Spring 2017. As the table reflects, the pass rate for online/hybrid courses ranges from a low of 50 percent to a high of 85 percent while the fail rate ranges from a high of 50 percent to a low of 15 percent. It must be clarified however that these rates do not include grades of "Incomplete," "Withdrawal," and "Technical Failure."

Table 3. Pass/Fail Rates for Online/Hybrid Courses, Fall 2012 – Spring 2017

Academic Year	Course Name	Course Title	Student Count	Pass	Percent	Fail	Percent
Fall 2012			52	30	67	14	33
	CD221	Child Growth & Development	21	16	84	3	16
	ED220	Human Growth & Development	31	14	54	11	46
Spring 2013			60	42	76	10	24
	CD221	Child Growth & Development	29	22	79	6	21
	ED220	Human Growth & Development	31	20	74	4	26
Fall 2013			46	32	74	11	26
	CD221	Child Growth & Development	16	8	53	7	47
	ED220	Human Growth & Development	30	24	86	4	14
Spring 2014			31	15	50	10	50
	CD221	Child Growth & Development	8	4	50	4	50
	ED220	Human Growth & Development	23	11	50	6	50
Fall 2014			37	25	71	4	29
	CD221	Child Growth & Development	16	9	60	1	40
	ED220	Human Growth & Development	20	16	80	3	20
Spring 2015			21	17	85	2	15
	CD221	Child Growth & Development	13	12	92	1	8
	ED220	Human Growth & Development	8	5	71	1	29
Fall 2015			77	42	64	19	36
	EN110	Freshmen Composition	19	13	76	3	24
	MA110A	Finite Mathematics	19	12	92		8
	OA101	Keyboarding	39	17	47	16	53
Spring 2016			97	52	66	24	34
	EN110	Freshmen Composition	19	10	59	6	41
	MA110A	Finite Mathematics	24	7	41	10	59
	OA101	Keyboarding	40	25	74	7	26

	OA230	Advanced Info Processing	8	6	86	1	14
	OA240	Machine Transcription	6	4	100	0	0
Fall 2016			116	72	71	27	29
	EN110	Freshman Composition	18	10	83	2	17
	MA110A	Finite Mathematics	11	3	43	3	57
	OA101	Keyboarding	72	50	74	18	26
	OA103	Filing Systems	5	3	60	1	40
	OA130	Information Processing	10	6	67	3	33
Spring 2017			57	28	56	20	44
	MA110A	Finite Mathematics	9	3	60	2	40
	OA101	Keyboarding	36	21	62	12	38
	OA230	Adv Info Processing	6	1	20	3	80
	OA240	Machine Transcription	6	3	50	3	50

*Grand Total "Total Enrolled", "Pass," "Fail," "Incomplete," "NG/TF," "W," and "Pass" and "Fail" rates exclude Fall 2017

The following table (see next page), on the other hand, presents data on pass/fail rates for students enrolled in face-to-face (F2F) classes, covered under the same period. Unlike the trend seen in online/hybrid courses, the pass rate for face-to-face classes ranges from a low of 78 percent to a high of 88 percent, which far exceeds the rate for online/hybrid courses. The same trend is apparent in the fail rate for F2F classes, as this ranges from a low of 13 percent to a high of 22 percent (compared to a low of 15 percent and a high of 50 percent). It must be noted, however, that the grades of "Incomplete," "Withdrawal," and "Technical Failure" were also not included in the computation for pass/fail rates of F2F classes.

Table 4. Pass/Fail Rates for Face-to-Face (F2F) Courses, Fall 2012- Spring 2017

Academic Year	Course Name	Course Title	Student Count	Pass	Percent	Fail	Percent
Fall 2012			158	124	83	26	17
	ED220	Human Growth & Development	158	124	83	26	17
Spring 2013			111	88	85	14	15
	CD221	Child Growth & Development	14	11	79	3	21
	ED220	Human Growth & Development	97	77	87	11	13
Fall 2013			191	142	78	32	22
	CD221	Child Growth & Development	14	12	86	2	14
	ED220	Human Growth & Development	177	130	78	30	22
Spring 2014			143	119	88	16	13
	CD221	Child Growth & Development	28	25	93	2	7
	ED220	Human Growth & Development	115	94	86	14	14
Fall 2014			120	91	78	23	22
	CD221	Child Growth & Development	8	7	88	1	13
	ED220	Human Growth & Development	112	84	77	22	23
Spring 2015			120	114	82	24	18
	CD221	Child Growth & Development	36	33	87	5	13
	ED220	Human Growth & Development	85	81	80	19	20
Fall 2015			669	570	87	80	13

	EN110	Freshmen Composition	259	214	87	28	13
	MA110 A	Finite Mathematics	143	118	87	15	13
	OA101	Keyboarding	297	238	86	37	14
Spring 2016			755	589	82	111	18
	ED220	Human Growth & Development	73	65	92	1	8
	EN110	Freshmen Composition	246	191	83	36	17
	MA110 A	Finite Mathematics	174	146	86	17	14
	OA101	Keyboarding	322	187	75	57	25
	OA230	Adv Information Processing					
Fall 2016			696	549	83	94	17
	CD221	Child Growth & Development	12	12	100	0	0
	EN110	Freshman Composition	267	224	87	31	13
	MA110 A	Finite Mathematics	181	137	83	22	17
	OA101	Keyboarding	236	176	78	41	22
	OA103	Filing Systems	0				
Spring 2017			357	279	83	51	17
	MA110 A	Finite Mathematics	143	107	83	19	17
	OA101	Keyboarding	214	172	83	32	17
	OA230	Adv Information Processing	0				

The table below compares the percentages side by side for both instructional delivery formats, where it can be gleaned that face-to-face classes clearly appear to have lower failure rates compared with online/hybrid classes. This seems to go against key research findings on the impact of distance education on student achievement where no significant difference is supposed to exist between the two instructional delivery formats. The findings on GCC student achievement in online classes however mirror the results of a 2015 study, "Successful Online Courses in California Community Colleges," where the authors report "we find that only 11 percent of online courses were successful. In other words, only about one in nine online courses had a high passage rate, student results at least as good as in the equivalent traditional course, and students who did well in subsequent courses in the same subject." They conclude further that a host of other variables predict student success in online courses, which can be explained at the college level, the subject level, or at the course level. The comparison of pass/fail rates in both online/hybrid and face-to-face classes, as reflected in the table below, validates this observation, at least in the context of GCC course offerings. The relatively low passage rates of students enrolled in online/hybrid courses compared with face-to-face classes, in the period covered by this study, reflect what appears to be a consistent trend, as illustrated by Table 5 below:

Table 5. Online/Hybrid vs. F2F: Percentage of Pass/Fail Rates, Fall 2012- Spring 2017

Academic Year	Course Name	Course Title	Percent of Students			
			Online/Hybrid		Face-to-Face	
			Pass	Fail	Pass	Fail
Fall 2012						
	CD221	Child Growth & Development	84	16	Not offered	Not offered
	ED220	Human Growth & Development	54	46	83	17
		Total	60	33	83	17
Spring 2013						
	CD221	Child Growth & Development	79	21	79	21
	ED220	Human Growth & Development	79	26	87	13
		Total	76	24	85	15
Fall 2013						
	CD221	Child Growth & Development	53	47	86	14
	ED220	Human Growth & Development	86	14	78	22
		Total	74	26	78	22
Spring 2014						
	CD221	Child Growth & Development	50	50	93	7
	ED220	Human Growth & Development	50	50	86	14
		Total	50	50	88	13
Fall 2014						
	CD221	Child Growth & Development	60	40	88	13
	ED220	Human Growth & Development	80	20	77	23
		Total	71	29	78	22
Spring 2015						
	CD221	Child Growth & Development	92	8	87	13
	ED220	Human Growth & Development	71	29	80	20
		Total	85	15	82	18
Fall 2015						
	EN110	Freshmen Composition	76	24	87	13
	MA110A	Finite Mathematics	92	8	87	13
	OA101	Keyboarding	47	53	86	14
		Total	67	33	87	13
Spring 2016						
	EN110	Freshmen Composition	59	41	83	17
	MA110A	Finite Mathematics	41	54	86	14
	OA101	Keyboarding	74	26	75	25
	OA230	Adv Info Processing	86	14	not offered	not offered
	OA240	Machine Transcription	100	0	not offered	not offered
		Total	66	34	81	19

Fall 2016						
	EN110	Freshman Composition	83	17	87	13
	MA110A	Finite Mathematics	43	57	83	17
	OA101	Keyboarding	74	26	78	22
	OA103	Filing Systems	60	40	not offered	not offered
	OA130	Information Processing	67	33	not offered	not offered
		Total	71	29	83	17
Spring 2017						
	MA110A	Finite Mathematics	60	40	83	17
	OA101	Keyboarding	62	38	83	17
	OA230	Adv Info Processing	20	80	not offered	not offered
	OA240	Machine Transcription	50	50	not offered	not offered
		Total	56	44	83	17
			Online/Hybrid		Face-to-Face	
			Pass	Fail	Pass	Fail
Grand Total Average Pass/Fail Rate (percent)			68	32	83	17

In order to gain a better understanding of students' perspectives, students enrolled in online classes were also surveyed in AY 2015-2016 to gain their perspectives on distance education. Survey responses (n=41) were submitted between November 2015 and November 2016. AIER collected these responses monthly with the following breakdown of response: November 2015 - 3 responses; December 2015 - 23 responses; April 2016 - 4 responses; May 2016 - 8 responses, and November 2016 - 3 responses. These collected responses were later tabulated and analyzed as reflected in the table below.

In this survey, students were asked to respond to a series of statements about the practice of Distance Education at the college, as students perceive it. A series of options in a Likert scale format was presented to them, where 5 = Strongly Agree, 4=Agree, 3= Neutral, 2=Disagree, and 1=Strongly Disagree. The table below synthesizes the mean scores of students' responses, including the standard deviation of each statement, from the survey administered to them:

Table 6. Student Perceptions of Distance Education (DE) Practices at GCC (n=41)

Statements	Mean	s.d.
I prefer to take this class through online/hybrid instruction.	3.32	0.84
The instructions for assignments were clear and easy to follow.	3.24	0.65
Instructor feedback was helpful.	3.46	0.50
The instructor was available for additional assistance with course work.	3.46	0.59
Objectives and goals were clear.	3.37	0.65
Readings, assignments, and assessment (e.g. quizzes, tests, essays) were relevant to the course.	3.56	0.50
As a result of this class, you are likely to enroll in another online class.	3.34	0.87
This class was more difficult than taking a face-to-face class.	2.59	1.04

I had better communication with my teacher than a regular face-to-face class.	2.85	0.90
I had better communication with my fellow students than a regular face-to-face class.	2.54	0.94
I contributed more in this class than a regular face-to-face class.	3.12	0.80
Overall, I received sufficient support (registration, technical, classroom assistance) when I needed it.	3.44	0.77

As the above table reflects, among the statements, the relevance of teaching materials had the highest mean, 3.56 (s.d. 0.50), with interaction with classmates as having the lowest, 2.54 (s.d. 0.94). Because there was a neutral option in the scale, it appears that responses gravitated toward the middle. As a result, it is difficult to interpret these responses item by item. The standard deviation ratings however tell a different story, with a low of .050 to a high of 1.04. This simply means that all the respondents seem to have a consistent level of agreement with all these statements. The statement with the highest rating, “This class was more difficult than taking a face-to-face class” (s.d. 1.04) implies that GCC students’ perceptions about distance education are divergent. In general, the moderate mean scores on the 5-point Likert scale suggest a certain degree of noncommittal and a lack of strong endorsement of the DE practice on campus amongst GCC online students who participated in this survey.

Conclusions and Recommendation

Based on the analysis of primary and secondary data on the DE initiative on campus, the following conclusions are drawn:

1. GCC’s Guam-only approach to Distance Education does not seem to be working because local students in general lack the readiness that gives them the ability to avail of the benefits of online or hybrid course offerings that provide them access to their courses anytime, anywhere;
2. The relatively high failure rates of online/hybrid courses compared with face-to-face courses reflect the low learning gains that students have made with the online/hybrid option; and
3. The challenges associated with the implementation of the DE Strategic Plan stem from the institution’s budgetary constraints, which has prevented the college from hiring dedicated personnel, such as an Administrator or Instructional Designer, to assist and facilitate the development of online/hybrid curriculum, as well as to provide the requisite training for both faculty and students. Because there are no dedicated personnel who monitor the DE Strategic Plan on a systematic and regular basis, many of its components remain unrealized to this day. A revisit of the DE Strategic Plan is therefore necessary and critical.

Within the framework of these findings, it is recommended that no further growth or expansion regarding online or hybrid courses be introduced until these issues are resolved satisfactorily. In terms of learning gains for students who have opted to take the online/hybrid option, there is sufficient data to warrant an early termination of the DE initiative on campus, given the current lack of institutional resources that can sustain it. The college must focus its energies and resources on strengthening the face-to-face instructional delivery format instead, through more improved pedagogy training.

In light of the findings of this summative report, there are two (2) options that the college can take:

- 1) The college can **terminate** the offering of purely online courses at the end of this academic year and allow only hybrid courses to be offered beginning Fall 2018. The contract for the remote host server will need another renewal to provide support for these courses.
- 2) The college can **maintain** the DE initiative on campus. In order to sustain it, however, an institutional decision needs to be made no later than the end of this semester (Fall 2017) so funding for a DE administrator or Instructional Designer can be included in the budget proposal for FY 2019.

Whatever option above is chosen, academic technology must not be set apart from the curriculum component of DE if this initiative is to succeed. The fragmentation of the two crucial components in two separate divisions (i.e. Finance & Administration and Academic Affairs), as it now exists under the current structure, is disjointed and restrictive. From an institutional perspective, this structure prevents an organized, coherent approach towards DE on campus

Finally, the thorough screening and systematic selection of technological tools that can strengthen hybrid and web-enhanced courses must continue under the guidance of the Academic Technology office. A complete and thorough audit of software resources being utilized on campus must be done by the Program Specialist, with the end goal of standardizing the use of specific web technologies that will provide the necessary faculty support to continue in this direction. The critical support of the Technology Working Group (TWG) must be enlisted to ensure that this initiative goes through the participatory governance process. There is sufficient faculty interest in this area that warrants institutional attention to this area of critical growth.

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